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MEDICAL NEWS LETTER

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HISTORICAL FUND
of the
NAVY MEDICAL DEPARTMENT

A committee has been formed with representation from the Medical Corps, Dental Corps, Medical Service Corps, Nurse Corps, and Hospital Corps for the purpose of creating a fund to be used for the collection and maintenance of items of historical interest to the Medical Department. Such items will include, but will not be limited to, portraits, memorials, etc., designed to perpetuate the memory of distinguished members of the Navy Medical Department. These memorials will be displayed in the Bureau of Medicine and Surgery and at the National Naval Medical Center. Medical Department officers, active and inactive, are invited to make small contributions to the fund. It is emphasized that all donations must be on a strictly voluntary basis. Funds received will be deposited in a Washington, D. C. bank to the credit of the Navy Medical Department Historical Fund, and will be expended only as approved by the Committee or its successor and for the objectives stated.

It is anticipated that an historical committee will be organized at each of our medical activities. If you desire to contribute, please do so through your local historical committee or send your check direct, payable to Navy Medical Department Historical Fund, and mail to:

Treasurer, N. M. D. Historical Fund
Bureau of Medicine and Surgery (Code 23)
Department of the Navy
Washington 25, D. C.

Committee

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Conventional Radical Neck Dissection

There is a continuing debate among surgeons as to whether it is necessary to treat a metastasizing papillary carcinoma of the thyroid by a so-called "block dissection" of the neck. This is an important question, for the classical operation, so well adapted to eradication of the metastases of squamous cell cancers of the mouth, sacrifices the sternocleidomastoid muscle, often the eleventh nerve and sometimes even the inframandibular branch of the facial nerve. The deformities and dysfunctions which ensue are tragic consequences to teen-age girls and young women who are most commonly affected by papillary cancers of the thyroid. Loss of contour of the neck, paralysis of the muscles of the lower face, shoulder drop, later arthritic changes in the shoulder girdle, hoarseness from unilateral laryngeal nerve injuries, stridor from bilateral injuries, and tetany are serious and often permanent complications. The surgeon who inflicts them must be prepared to defend his position by incontrovertible proof of a higher rate of cure. To date such proof is lacking; in fact published statistics indicate that the results of extensive and carefully planned conservative operations are better than those following conventional radical neck dissections.

Those who favor radical neck dissections argue that a classical en bloc cancer operation should give maximum protection against recurrence, but they fail to describe how such an operation can be performed. The real question is not whether an en bloc operation is good but whether there is such a thing as an en bloc operation that is applicable to cancer of the thyroid.

If in carcinoma of the thyroid it were possible to remove en bloc the primary tumor and its primary and secondary zones of metastases, a radical operation might be acceptable. But how can an en bloc dissection be made of the thyroid, the mediastinal nodes, the midline Delphian nodes, the paratracheal nodes and the jugular and carotid nodes? The primary tumor in the thyroid lies directly on the trachea, an organ that cannot be sacrificed to fulfill the en bloc principle. The thyroid lies in a fascial compartment of its own that has no continuity with the lateral cervical region and is separated from it by the carotid vessels which cannot be sacrificed. The primary tumor lies against the carotid artery and must be dissected free of it before it can be removed. The mediastinal nodes lie on the great vessels of the mediastinum and cannot be resected en bloc without sacrificing the vessels. The Delphian nodes lie on the larynx. The paratracheal nodes lie against the trachea, esophagus and cannot be resected en bloc without sacrifice of trachea, esophagus and recurrent nerves. The carotid nodes lie on and under the carotid and cannot be resected en bloc without resection of the carotid. Indeed there is no such operation as a block dissection of a cancer of the thyroid and its zones of metastases.

There is increasing evidence that the growth of many papillary cancers can be controlled indefinitely by administration of large doses of desiccated thyroid. Ten patients at the Cleveland Clinic have been under treatment for period of time up to seven years. In three of these, metastases in the lungs have disappeared; in six there has been striking regression and in one there has been recalcification of bone. During the past three years, in which three grains of desiccated thyroid have been given daily to all patients operated on for papillary cancer of the thyroid, no recurrences have been seen in the patients who took the thyroid. Perhaps, as in cancer of the prostate, endocrine therapy will prove to be the most effective treatment of certain cancers of the thyroid.

Because many papillary cancers are amenable to endocrine control, because there is no such operation as a block dissection of a cancer of the thyroid in continuity with its zone of lymphatic metastases, and because the survival rate of reported cases indicates that well-planned conservative operations which do not deform the neck are more effective than standard radical neck dissections, there are few indications for sacrifice of the sternocleidomastoid muscle. The lives of girls and young women who so commonly develop papillary carcinoma are profoundly altered by mutilating operations. The extraordinary survival rates following non-mutilating operations that attack the vital central zone speak for themselves. This type of operation has been performed on 73 patients who had had no previous biopsy of the thyroid or partial removal of the thyroid tumor. In only one of these was the sternocleidomastoid muscle removed. All patients have been followed for an average and median period of more than five years. Sixty-four percent of the patients had lymph node metastases at the time of operation, some having 20 to 40 nodes involved; yet none has died of cancer or has developed distant metastases, and none, at present, has any demonstrable cancer in the neck or mediastinum. In short, conservative operations in these cases have been 100% effective in controlling the cancer. Increasing the cure rate of cancer can no longer be used as an excuse for routine mutilation of the neck. The burden of proof now rests squarely on the surgeon who resects the uninvolved sternocleidomastoid muscle of a young woman or a teen-age girl. The conventional block dissection when applied to cancer of the thyroid is a parody of the principles of cancer surgery, has not increased the rate of cure, and should be abandoned. (Crile, G., Jr., The Fallacy of the Conventional Radical Neck Dissection for Papillary Carcinoma of the Thyroid: *Ann. Surg.*, 145: 317-320, March 1957)

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Transaminase

Serum glutamic oxaloacetic transaminase has recently become widely used as a fairly specific test for the determination of acute myocardial infarction. Many laboratories are evaluating the use of this enzyme in this and many other clinical states to determine its specificity, advantages and shortcomings, but as yet the time has been too short for the accumulation of a great number of cases for adequate statistical evaluation. For the most part the reports in the literature are preliminary studies. A review of the subject, however, might acquaint the clinician with some knowledge of when to ask for the test, when it might help in further evaluation of diagnostic problems and what degree of reliability can be placed on it.

Serum glutamic oxaloacetic transaminase has been found in the serums and tissues of all animals studied and normal human values as determined by LaDue et al. in a study of 50 normal human subjects in 1954 and in a study of 88 patients in 1955 showed a range of 8 to 40 units per milliliter, with a mean of 22.1 (S. D. 6.8) units per milliliter. Steinberg and Ostrow had an upper limit of 33 units, and Kattus et al. found a range of 16 to 24 units per milliliter in 11 normal subjects. The values found in normal tissues by Cohen and Hekhuis as expressed in units per milligrams (dry weight) are: heart, 425; skeletal muscle, 316; brain, 260; kidney and liver, 245; testis, 150; lung, 51; and spleen, 16. Normal values have been found in a great variety of diseases and hence serum glutamic oxaloacetic transaminase is not considered a nonspecific indicator of inflammation or tissue reaction but rather a specific test for myocardial and hepatocellular damage or necrosis. Normal values have been found in such varied states as allergy, neoplasm, collagen diseases, congenital disorders, endocrine disturbances, degenerative diseases of the central nervous system and bone and infectious diseases of the lung, kidney and gall bladder. A table lists some of the specific diseases in which normal levels are maintained.

Glutamic oxaloacetic transaminase has been found in all serums and tissues examined. At present a spectrophotometric method is available for the determination of this enzyme that is rapid, relatively simple, inexpensive and quite reproducible. Normal human serum contains 8 to 40 units, and the tissues contain a varying amount, ranging from the heart, skeletal muscle, brain, liver, kidney and lung in decreasing order of activity. Normal values have been found in a wide variety of pathologic states. The enzyme is present as an integral part of the cell and is found in the serum only as a result of normal cellular breakdown since the cells lose 90 to 98% of their complement of glutamic oxaloacetic transaminase after injury. There seems to be evidence that it is excreted through the bile and that obstruction of the biliary tract will almost invariably cause elevations.

In patients with acute myocardial infarction, as little as 5% total infarction can cause increased activity. Of a total of 351 patients with acute myocardial infarction 329 were well studied, and 321 had abnormal levels, for a 91.5% over-all accuracy and 97.6% accuracy for the well studied cases. The titer starts to rise in four to six hours, reaches a peak in eighteen to thirty-six hours and returns to normal in four to six days. False-positive tests can be obtained in cardiac arrhythmias in which the ventricular rate is greater than 160 per minute. In angina pectoris, even when it is associated with ST-segment and T-wave changes, the values will usually remain normal, although 8 patients, all elderly, with prolonged pain did have increased activity. Fifty percent of persons with acute rheumatic carditis will have abnormal levels, and in those with congestive heart failure complicating the rheumatic carditis the values will be positive in 88%.

Elevated levels are found in acute hepatitis, cirrhosis and obstructive jaundice, and there is a rough correlation between the degree of jaundice and the height of rise of serum glutamic oxaloacetic transaminase. This test is the most sensitive routine laboratory procedure available to define subclinical jaundice and will become positive about three weeks before any of the other liver-function tests in patients on drugs that cause toxic hepatitis. In both cardiac and hepatic evaluation there is a direct proportion between the height of the rise in the level of the enzyme in the serum and the extent of damage, with an inverse proportion to tissue concentration.

Cancer cells do not contain an excessive amount of glutamic oxaloacetic transaminase, and serum levels have been normal in all cancers except in lymphomas with hepatic involvement and neoplasms with metastasis to the liver. In metastatic disease to the liver, the titer is elevated in 94% of the patients, and this is the most sensitive test for determining such a metastasis.

Pancreatitis causes 50% positive reactions, but if it is accompanied by jaundice the figure rises to 71%.

There is a blood-brain barrier to glutamic oxaloacetic transaminase, so that all central-nervous-system lesions are associated with normal serum values.

Emboli or thrombi of internal organs or extremities may produce elevated serum values, but these are inconsistent. (Conrad, F.G., Medical Progress--Transaminase: New England J. Med., 256: 602-607, March 1957)

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The printing of this publication has been approved by the Director of the Bureau of the Budget, 16 May 1955.

Small Epidemic of Tuberculosis

This article presents the history of a recent small epidemic of tuberculosis, relates the way in which it was investigated and managed, and attempts to assess the possible significance of this and similar outbreaks.

In July, 1955, the local health authorities and the Ontario Department of Health became alarmed by what appeared to be an outbreak of tuberculosis in a township in the northern part of the province. Nineteen active cases of tuberculosis had been reported among the 2,300 inhabitants of a French Canadian village and surrounding area. Twenty-one more cases were discovered during the course of the subsequent investigations, bringing to 40 the total in this village during the period of two years; most of these 40 cases occurred in adolescents and young adults.

The village in which the outbreak occurred is situated about 20 miles from a large and prosperous mining town. The standard of living is relatively high, the houses are mostly modern but, owing to the large size of the families, are somewhat overcrowded.

There were several places where infection could have been acquired. There were occasional trips in crowded cars to a dance hall or theater in neighboring villages; also the skating rink had a small shed used for rest and warmth.

The young people in the village, however, favored a small clean restaurant where a large number of them, including some with "open" tuberculosis, met regularly at least once or twice a week. Fifteen to twenty young people crowded into a confined space, singing, dancing and drinking "pop," would seem to provide ideal conditions for the spread of infection. Most of the 40 cases discovered were undoubtedly the result of recently acquired tuberculous infection.

A question which arose was whether the low native resistance could account for this outbreak. It is believed that low native resistance did not play a part in this epidemic. First: Tuberculosis was not a new disease in this district and deaths from tuberculosis had occurred there for many decades. The tuberculin reaction curve showed a high percentage of positive reactors in older age groups, almost certainly the result of infection acquired mainly much earlier in life. Second: The clinical picture of the individual cases of tuberculosis seen was certainly not suggestive of the disease as seen among primitive peoples. For example, in no single case was there a great enlargement of the lymph nodes. The roentgenographic picture of patients with primary complex or simple enlargement of hilar nodes did not differ in any way from that seen in communities exposed to tuberculosis for many generations. Hematogenous dissemination, while relatively common, was certainly an exception rather than a rule. Cases of pulmonary tuberculosis showed clinical and roentgenographic features and response to treatment similar to those seen in cases from other localities.

Small epidemics of tuberculosis appear to be becoming more frequent in recent years, and perhaps not all of them are reported in the literature. Waring reviewed five small epidemics occurring in various parts of the world. In Canada two such outbreaks were reported in the last four years, but there were at least two other outbreaks.

All of these small epidemics show certain common characteristics. In each there are, in addition to potent sources of infection, the places particularly suitable for the infection to spread, whether it be an unhygienic classroom, a restaurant, or a village store. Furthermore, the main part of the morbidity seen in these epidemics is due to recently acquired primary tuberculous infection; they all resulted from the introduction of infection to tuberculin negative groups.

Thus, there appear to be three main factors necessary for the development of an epidemic of tuberculosis. These are: (1) A predominantly tuberculin negative population, (2) The introduction of potent sources of infection, (3) An environment suitable for the spread of infection.

During the past few decades the tuberculin status of the population in most parts of North America has shown a steady change, with a decrease in the percentage of positive reactors.

This rapidly changing picture of tuberculous infection can be attributed to the rising standard of living and particularly to better housing, on the one hand, and to the tremendous development of preventive measures with great achievements in the case-finding programs, on the other. It has become a justifiable source of pride to all those concerned with the prevention of tuberculosis.

Yet the story of the small epidemics shows that this rapid development of a tuberculin negative community may not be entirely beneficial; it is often forgotten that it means the development of a community without acquired resistance to tuberculous infection. Open undetected cases of tuberculosis are still being discovered by case-finding programs. Patients with old arrested infections who have been discharged from sanatoriums occasionally escape supervision and their disease reactivates after many years of apparent quiescence. In addition, opportunities for acquiring tuberculous infection are still very great in many areas of the world. With the considerable movements of the populations and development of travel in recent years, some members of the tuberculin negative communities may acquire their infection elsewhere and a few of them may in turn act as sources of infection on their return home.

The paramount importance of the environment in the problem of the spread of tuberculous infection has perhaps not received sufficient emphasis. Conditions of overcrowding, whether at home, in workshops, or in places of entertainment, appear essential for widespread infection with the tubercle bacilli. In the present instance, the habit of the young people of gathering regularly in the confined space of the local restaurant seems a vital factor in the development and the peculiar age distribution of this epidemic.

In conclusion, it appears reasonable to predict that minor epidemics of tuberculosis will arise from time to time among predominantly tuberculin negative communities. They will arise whenever undiscovered potent sources of infection arise in an environment suitable for the spread of infection. The experience of the last decades suggests that such epidemics will probably continue to be relatively rare.

Major epidemics appear unlikely. The high and rising standard of living, with good housing and hygienic workshops and places of entertainment, will largely control the environmental factor. The case-finding programs, if maintained and developed in spite of inevitably diminishing returns, will continue to keep down the number of actual or potential sources of infection.

There is no reason, however, why a major epidemic of tuberculosis should not occur if some disaster such as war or natural calamity should happen. If such circumstances should result in the crowding together of large numbers of people in confined spaces for prolonged periods and if a few open cases of tuberculosis were suddenly presented with a real opportunity to infect, the tuberculin negative community might well have to pay a heavy price for its lack of acquired resistance.

The lesson from these few small epidemics of tuberculosis appears to be that the general policy toward the prevention of tuberculosis may need revision. The need for protective vaccination against tuberculosis may indeed be small in most parts of this continent during times of peace and prosperity, much smaller than it is in the countries where tuberculosis is a more common disease. That need may, however, be correspondingly greater here as an insurance against the possible widespread outbreak of tuberculosis in times of war and calamity.

The protective vaccination against tuberculosis with all of its drawbacks and shortcomings may well prove to be an important measure in the whole picture of preparedness for an emergency. (Grzybowski, S., A Small Epidemic of Tuberculosis: Am. Rev. Tuberc., 75: 432-439, Mar. 1957)

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Cigarette Smoking and the Incidence of Prematurity

There is a difference of opinion among physicians as to the advisability of cigarette smoking during pregnancy. Some physicians believe that smoking has no significant effect on the unborn child; therefore, they do not curtail smoking during pregnancy. Others, who do not feel sure about the prenatal effects of smoking, usually advise their obstetrical patients to cut down on the number of cigarettes per day. Another group of doctors advocate total abstinence, believing cigarette smoking to be harmful to the mother and her unborn child. During the past four decades

the incidence of cigarette smoking among women has increased so rapidly as to make this question worthy of a sound scientific answer. Leading obstetricians in the United States and Canada who replied to Campbell's questionnaire reported that 48% of their patients smoked. A search of the literature for a scientific basis on which to advise obstetrical patients in regard to cigarette smoking disclosed that apparently very little research work has been done by way of human experimentation.

The purpose of this preliminary study with human subjects was to ascertain the nature and degree of relationship between cigarette smoking and the incidence of premature infant births; and at the same time to determine the interrelationship of these factors and other relevant variables such as age, parity, race, and socioeconomic status.

This study defines a premature infant as one weighing 5 pounds, 8 ounces (2,500 grams), or less at birth. Multiple births are excluded from prematures. Light smokers are those who report smoking between one and ten cigarettes per day. Heavy smokers are those who report smoking more than ten cigarettes per day. Parity refers to the number of children to whom this mother has previously given birth. By no prenatal care is meant that the patient had no more than one visit to the doctor before delivery.

A questionnaire was formulated to be used on all obstetrical patients who were delivered at the San Bernardino County Hospital. The gathering of data for this study commenced April 1, 1953. One year later two private hospitals joined the study: St. Bernardine's Hospital and the Loma Linda Sanitarium and Hospital. This report, which covers a period of 3 years for the County Hospital and 2 years for the private hospitals, includes 7,499 patients. Copies of the questionnaire were kept in the obstetrical department of each hospital. The data were obtained at the time the birth certificate was filled out--approximately 24 to 48 hours after delivery.

It is apparent from this study that the County Hospital represents a different population from that of the private hospitals. When the County Hospital was studied by race, an interesting preponderance of Mexican births became apparent. It was found that 50.6% of all babies delivered at the County Hospital were Mexican and 33.3% were white babies, leaving 16.1% of other races such as Negroes and Orientals. Only 22.5% of Mexican mothers reported smoking, and the prematurity rate for all Mexicans was 7.4%. Approximately 47% of all white mothers admitted smoking with a prematurity rate of 9.6%.

The prematurity rates by hospitals for smokers and nonsmokers are shown. For the 2 private hospitals the prematurity rate is approximately twice as high for smokers as for nonsmokers. A statistical analysis indicates that the prematurity rate for smokers is significantly higher than for nonsmokers. The fact that the difference is less between the prematurity

rates for smokers and nonsmokers at the County Hospital than it is at the two private hospitals gives further evidence that the County (or charity) institution apparently represents a different population.

The following factors may have contributed to the higher prematurity rate in County Hospital nonsmokers: poor nutrition, the high incidence of unwed mothers (many of whom may have attempted to induce premature births), and lack of prenatal care. Thirteen percent of all the mothers delivered at the County Hospital were without legal fathers for their babies; while only 1% of the babies delivered in a private hospital were born out of wedlock. In light of these data, it may be hypothesized that many of the unwed mothers did not make a good emotional adjustment to pregnancy.

The prematurity rates for heavy smokers, light smokers, and nonsmokers are plotted against the age of the mother. The prematurity rates at every age are consistently higher for heavy and light smokers than for nonsmokers. There is a decrease in prematurity rates for all groups at the age of 30 to 35. The reason for this is not at present apparent.

This report shows an incidence of premature births at private hospitals which is approximately twice as great for smoking mothers as it is for nonsmoking mothers. The prematurity rate increases with the number of cigarettes smoked per day. The highest prematurity rates are for heavy smokers and the lowest rates for nonsmokers.

The County Hospital represents a different population in which socioeconomic factors may affect the picture. The prematurity rate for nonsmokers is relatively higher at the County Hospital than at the private hospitals and there is less difference between the prematurity rate for smokers and nonsmokers. Mexicans delivered at the County Hospital report less smoking than any other ethnic group and show the lowest prematurity rate. (Simpson, W.J., A Preliminary Report on Cigarette Smoking and the Incidence of Prematurity: Am. J. Obst. & Gynec., 73: 808-814, April 1957)

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Placental Treatment of Varicose Ulcers

Permanent eradication of varicose leg ulcers through preventive measures or by surgical correction of the underlying pathology is the ultimate therapeutic goal in this problem. Unfortunately, at present, the final answer does not exist as evidenced by the number of patients with chronic leg ulcer in the Clinic of Ohio State University College of Medicine and elsewhere. Until a permanent totally successful method of treatment is realized, the dressing of chronic leg ulcers will necessarily continue. The time required, the practicability, and the expense to obliterate these leg ulcers are of considerable importance to the patient and the physician.

Local and systemic therapies for the obliteration of varicose leg ulcers in the recent literature were reviewed. They include penicillin and anesthetic injection of the ulcer, muscle adenylic acid intramuscularly with local dry dressing, and elastic bandage, absorbable gelatin sponge, nitrofurazone (Furacin) soluble dressing, enzymatic debridement, respiratory enzymes intramuscularly; resin, petrolatum (Vaseline) gauze, gauze bandage, and elastic adhesive bandage, compression dressings, local chlortetracycline (Aureomycin) ointment, and bed rest. Generally, the time necessary for the obliteration of the varicose leg ulcers was a matter of months, the percentage of successful results frequently low, and the various therapies complicated, often expensive or impractical.

Nineteen ambulatory patients with 30 leg ulcers were treated with placental dressings and observed from 3 to 7 weeks at this clinic. All patients during the placental dressing therapy were ambulatory without restriction in their daily routine. Twenty-two primarily varicose ulcers, with and without other complications (old thrombophlebitis, lymphedema, arteriosclerosis, trauma, et cetera), were treated and observed during a 7-week period. Sixteen of these ulcers were obliterated during this 7-week period; 8 of these required 4 weeks or less for complete obliteration. Five, after a period of 7 weeks, while improved in varying degrees, had not been completely obliterated. One patient was lost to follow-up. Initially, pain was present in 50% of the ulcers. However, 48 to 72 hours after the application of placental dressings, the patients were asymptomatic in most cases. Six ulcers from other causes, including arteriosclerosis, burns, and Buerger's disease, were treated and had generally a poor response. Some improvement of the lesions was noted and some of the symptoms subsided, but in general the result was poor.

Controls for this placental therapy consisted of the length of time necessary for obliteration of leg ulcers on the same patients with conventional treatment at this clinic. At least 80% of the patients in the series had been previously treated and all required longer periods by weeks and months for obliteration of their ulcers by conventional means.

Chronicity and poor to absent response to other local agents was present in the majority of cases used in this series. The healing time prior to placental application (with conventional forms of treatment) was a matter of months instead of several weeks as with placental dressings.

Placental dressings--like other local and systemic therapy--are directed at the rapid obliteration of varicose ulcers with minimal time and expense on the part of the physician and patient. For those who refuse surgery or those with poor surgical results, this method offers less discomfort and morbidity with weeping, foul-smelling lesions. No thought of permanent cure by this method is entertained. (Denkewalter, F. R., Ambulatory Treatment of Varicose Leg Ulcers with Fresh Placental Dressings: Arch. Surg., 74: 316-321, March 1957)

Treatment of Cancer of the Cervix

In this era in which the radical surgeon and the radical radiologist is each striving to push his attack on cancer of the cervix beyond the confines once thought to be practical and safe, it seems fitting to again voice two of the most fundamental axioms for treatment. First, that the best procedure must produce the largest number of cures with the smallest number of persistent sequelae and second, that the patients receiving a new plan of therapy should be made to feel better rather than worse. It is indeed difficult to impress a cancer patient with the merits of a new procedure which apparently eliminated her malignant tumor when she is suffering from a painful intestinal reaction or a secondary chronic urinary disorder. Perhaps a third axiom should specify that the method selected should be the most economical one as regards time, expense, and equipment so long as the first axiom is met.

The uterine cervix is surrounded by the rectum, the bladder, and the ureters, all of which are radiosensitive, and since metastatic lymph nodes from cancer of the cervix may be in close contact with the sigmoid colon and loops of small intestine, the treatment of cancer of the cervix and its extensions poses a real problem. These anatomic facts necessitate a fourth axiom, namely, that the dose of irradiation which should be administered to the cervix and the pelvic lymph nodes is sharply limited by the tolerance of the surrounding normal structures. Even though very large doses can be delivered into the pelvis with the cobalt bomb and supervoltage roentgen-ray machines with little or no resulting skin damage, the tolerance of the deeper structures still puts a strict limitation on the amount of irradiation which can be used with safety. Those who are unfamiliar with the untoward effects that may appear long after the treatment is given should not be carried away by the impressive depth dose charts which at first glance seem to promise so much.

Engineers and physicists--many of whom have had little or no clinical or biologic experience--are striving to devise plans for delivering large homogeneous doses to the uterus and all of its pelvic lymphatics with rays delivered from external sources. Whether the volume of tissue irradiated be a sphere, an ovoid or have some odd shape, it must, of necessity, be large and contain some parts of the adjoining radiosensitive organs. All experienced therapists know that doses must be steadily decreased as volume is increased if a margin of safety is to be assured and the author believes that the delivery of a homogeneous cancerocidal dose to a sphere which includes the entire pelvis is a hazardous procedure.

As the author gained experience through the years with numerous empirical approaches to the treatment of cancer of the cervix, he has slowly been led to the adoption of a rather conservative method which has as its objective the delivery of adequate doses precisely to the malignant tissue known to be present. He suggests that this method might be aptly called

an approximation technique because an attempt is made to bring large doses in close approximation to the malignant tumor, thereby reducing the amount of normal tissue irradiated to a minimum. The success of this procedure depends upon the careful delineation of the tumor and its extensions by pelvic examination.

In 1936, a technique was adopted designed to eliminate irradiation injuries by using relatively small amounts of radium and roentgen therapy as efficiently as possible; in 1943, a report was made on 149 consecutive cases studied for 2 to 6 years in which irradiation sequelae were almost completely absent. Although the period of study was inadequate, the salvage rate was promising. Obviously, approximation can best be accomplished by the local use of multiple sources of irradiation, and as the author became familiar with the work of Pitts and Waterman his radium capsule technique was augmented by the use of implanted low intensity radium needles. The basic principles of the technique as it is used today were published in 1948 and this article is prepared as a review of the work done in 1948 and 1949.

Although some external roentgen therapy is used, the most important part of the author's procedure consists of the use of small radium sources placed so that no portion of the malignant tumor receives less than 6000 gamma roentgens in 7 days. Because squamous cell carcinoma of the skin and mouth responds quite well to this dosage, it seems reasonable to use it for squamous cell carcinoma of the cervix. If the time factor illustrated by the Strandquist curve is correct, the biologic effect is much greater than that produced by 6000 roentgens delivered by an external source in 4 to 6 weeks. No attempt is made to deliver homogeneous doses because the irregular configuration of many of the cervical tumors and their extensions would render such a plan very difficult, and the results obtained indicate that it is only necessary to keep the point doses within safe limits. These point doses in the cervix and in the center of an indurated parametrium may run as high as 15,000 roentgens in 7 days, but the upper limits must be adjusted to protect adjoining normal structures and, obviously, this factor varies in each case.

An approximation technique must be flexible because no two lesions present exactly the same problem. The uterus may be very large or very small; the vaginal vault may be markedly contracted or voluminous; the cervix may be centrally placed or drawn to one side; the cervical canal may be centrally or eccentrically placed and, at times, it cannot be located at all. Carcinoma of the cervix may grow as a concealed tumor within the canal or form a huge cauliflower mass that fills the vagina; its visible and palpable extensions may invade the vaginal walls, the parametrium, the rectum, the bladder, or the fundus of the uterus. For the proper approximation of radioactive sources, one must acquire a familiarity with the female pelvis as well as a knowledge of dosage calculations.

Irradiation sequelae can be almost completely eliminated in the treatment of carcinoma of the cervix by utilizing an approximation technique

designed to place multiple sources of radiant energy in close proximity to the malignant tumor and its demonstrable extensions for a period of 7 days. The dosage in the sides of the pelvis is augmented by the cautious use of 220 kv. roentgen rays.

In a series of 82 patients with invasive carcinoma treated in 1948 and 1949, the absolute 5-year cure rate was 52.4% and the cure rate for 78 patients who received adequate therapy was 55.1%. This good showing was due, in part, to the fact that 54 of the cases could be placed in Stages I and II. In this group, the 5-year cure rate was 72.2%, a figure which compares favorably with the 69% reported by Kiu and Meigs for a similar series subjected to radical hysterectomy and lymphadenectomy. It should be noted that an appreciable number of serious complications were observed following radical surgery while only one similar complication--possibly due to needle implantation--occurred in the present series. (Martin, C. L., Approximation Technique in Treatment of Cancer of the Cervix with Irradiation: Am. J. Roentgenol., 77: 388-396, March 1957)

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Nurse Corps Commission Requirements

The qualification requirements for commission and appointment in the Navy Nurse Corps have recently been revised. Appointments are made in the grade of Ensign through Lieutenant (senior grade), depending upon age and professional qualifications.

The scale as presently established is:

Ensign - 21-34 years of age

No professional experience required. Those applicants having a baccalaureate degree in nursing or fields allied to nursing will be granted six months constructive credit which will be reflected in earlier consideration for promotion to LTJG.

Lieutenant (junior grade) - 21-35 years of age

Three years appropriate professional experience, or

Two and one-half years appropriate professional experience and 15 college semester hours toward a baccalaureate degree in nursing or fields allied to nursing, or

Two years appropriate professional experience and a baccalaureate degree in nursing or fields allied to nursing, or

Two years appropriate professional experience and qualification by examination as a nurse anesthetist by the American Association of Nurse Anesthetists, or

One year appropriate professional experience, a baccalaureate degree in nursing or fields allied to nursing, and qualification by examination as a nurse anesthetist by the A. A. N. A.

Lieutenant (senior grade) - 21-40 years of age

Six years appropriate professional experience and a baccalaureate degree in nursing or fields allied to nursing, or

Five years appropriate professional experience and a master's degree in nursing or fields allied to nursing, or

Six years appropriate professional experience and qualification by examination as a nurse anesthetist by the A.A.N.A. The six years appropriate professional experience will be reduced to five years for those qualified nurse anesthetists also having a baccalaureate degree in nursing or fields allied to nursing, and to four years for those qualified nurse anesthetists also having a master's degree in nursing or fields allied to nursing. (Nurse Div. BuMed)

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New Navy Training Program

The increasing scope of the Navy Amputee Rehabilitation and Clinical Prosthetic Research Program has created a need for additional medical officers trained in this field. A training program of one year's duration will be established at the U.S. Naval Hospital, Oakland, California, to begin on or after 1 July 1957.

This is an active program which, since its establishment, has cared for some 7000 amputee patients. They include patients from the Army, Navy, Marine Corps, Air Force and other governmental agencies. As it is carried out, it includes the following:

- (1) Adequate medical and surgical care of the patient
- (2) Preprosthetic physical reconditioning of body and stump
- (3) Construction and fitting of a modern, comfortable prosthesis
- (4) Training in use of prostheses
- (5) Prevocational and educational services
- (6) Psychological aids to the handicapped
- (7) Selective job placement

The Research Laboratory, operated in conjunction with the Prosthetic Research Board, National Research Council, and the National Academy of Sciences, conducts research programs on artificial limbs, prosthetic devices and rehabilitation techniques for the Navy.

Applicants must be career medical officers who have completed their formal training in Orthopedic Surgery, and who have a genuine interest in the field of rehabilitation. There is no obligation required for this period of training. Applications should be forwarded via official channels to Chief, BuMed. (Prof. Div., BuMed)

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Safety Precautions in Use of the
Picker Type X-Ray Machine

In the issue of the United States Navy Medical News Letter, Volume 28, No. 9, dated Friday, 2 November 1956, an article was published stating the causes of an accident involving a patient falling from a Picker Type X-ray Table. This article stated in part that it was the opinion of the Board that investigated the accident that the primary cause of the accident was a basic defect in the design of the Picker table. Subsequent information indicates that this portion of the article was incorrect.

It was not the intent of the original article to criticize the Picker X-ray Corporation in any way or to place the cause of the accident on the Picker Machine. The purpose was to point out that an accident had occurred and to inform activities of recommended safety precautions to prevent other similar accidents.

The Picker X-ray table on which the accident occurred was installed in December 1944, and at the time of installation all specifications were satisfactorily accepted by a Navy Inspector. Since World War II specifications have changed and many improvements have been included in the attachments of footboards for all X-ray tables.

The last paragraph of the original article offered a suggestion to prevent similar accidents. This suggestion is not considered necessary on X-ray tables that were installed after World War II. On units that were installed prior to 1946 it is recommended that instruction manuals be available for all such units, and that X-ray personnel be indoctrinated as to the safety precautions necessary for the proper operation of these units (Prof. Div. BuMed)

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Standardized Drugs Now Available

In order to alert all doctors to newer drugs which are now readily available on the Armed Services Medical Stock List, the following are described:

Potassium Chloride Injection, 2 molar, 10 cc, in a glass ampule is currently available to provide an immediate intravenous source of K ion for the correction of potassium deficiencies. The 2 milliequivalents per cc may be given alone or added to any other intravenous fluids being given in such disease states as: Severe diabetic acidosis under insulin therapy; electrolytically produced muscular weakness or paralysis; hypochloremic alkalosis (upper g.i. obstructions or prolonged intubations); hyperchloremic acidosis (ureterosigmoidostomy); hyperadrenalcortical states; certain lower nephron conditions; digitalis toxicity, severe diarrheas; etc.

Diiodohydroxyquin Tablets, vaginal, 100 mg, are available, combined with lactose, boric acid and dextrose for the treatment of vaginal Trichomonas infections. This appears to be a more effective agent in most cases of this resistant form of vaginitis.

Tetracaine Hydrochloride Injection, 0.2% in 2 cc of 6% dextrose solution is available to provide a sterile, already prepared, hyperbaric anesthetic solution especially for saddle blocks. The lower dosage and sterility give an extra margin of safety. Obviously a previous history of sensitivity to "caines" is a contraindication to its use.

Standardized Antibiotics now available include the following:

Tetracycline Hydrochloride, 0.25 grams in the powdered form and buffered with ascorbic acid for intravenous use. This broad spectrum antibiotic usually has fewer side effects and gives higher blood and cerebrospinal levels than some others in this category.

Tetracycline Hydrochloride, 0.1 gram in a powdered form, with 40 mg of procaine hydrochloride for intramuscular use.

Benzathine Penicillin G, 600,000 units in an aqueous suspension of 1 cc provides a longer blood penicillin level by intramuscular injection than previously obtainable. This makes it an ideal agent in treating gonorrhea or syphilis and in preventing sequelae in streptococcic infections and rheumatic fever. As these units are in cartridge form, it is easily adaptable to field use. (Prof. Div. BuMed)

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Board Certifications

American Board of Internal Medicine

LT George A. Anderson (MC) USNR (Inactive)
LT Waddell Barnes (MC) USNR (Inactive)
LT Freeman H. Cary (MC) USNR (Inactive)
LTJG Kenneth E. Cosgrove (MC) USNR (Inactive)
LCDR Matthew C. Darnell (MC) USNR (Inactive)
LT Paul T. Drenning (MC) USNR (Inactive)
LT Raymond E. Flake (MC) USNR (Inactive)
LT Adolph A. Flores (MC) USNR (Inactive)
LT Cletus T. Frerichs (MC) USNR (Inactive)
LT Newton H. Gresser (MC) USNR (Inactive)
LT Leo G. Horan (MC) USNR (Inactive)

LCDR Dudley P. Jackson (MC) USNR (Inactive)
 LT Louis P. Jervey, Jr. (MC) USNR (Inactive)
 LCDR John Jofko (MC) USNR (Inactive)
 LT Allan A. Kaplan (MC) USNR (Inactive)
 LT William M. Law (MC) USNR (Inactive)
 LT L. Theodore Lawrence (MC) USNR (Inactive)
 LT Grady E. Longino (MC) USNR (Inactive)
 LT John J. Martin, Jr. (MC) USNR (Inactive)
 LTJG James P. McCall (MC) USNR (Inactive)
 LTJG Lewis C. Mills, Jr. (MC) USNR (Inactive)
 LT Victor A. Moore (MC) USNR (Inactive)
 LT John A. Owen, Jr. (MC) USNR (Inactive)
 LT Wilson W. Powers (MC) USNR (Inactive)
 LT John W. Roark (MC) USNR (Inactive)
 LT Jordan Thompson (MC) USNR (Inactive)

American Board of Orthopedic Surgery

CAPT Warner D. Bundens, Jr. (MC) USN (Active)
 CAPT Harry B. Eisberg (MC) USN (Active)
 CAPT Henry R. Ennis (MC) USN (Active)
 LT Daniel J. O'Regan (MC) USNR (Inactive)
 CDR John J. Price, Jr. (MC) USN (Active)

American Board of Pathology

LTJG Robert S. Stone (MC) USNR (Inactive)

American Board of Pediatrics

LTJG Leo S. Konieczny (MC) USNR (Inactive)

American Board of Preventive Medicine

CAPT John Neilson, Jr. (MC) USNR (Inactive)
 CAPT Joseph Vogel (MC) USN (Active)

American Board of Psychiatry and Neurology in Psychiatry

LT Nathaniel J. London (MC) USNR (Inactive)

American Board of Radiology

LTJG Winston F. Whipple (MC) USNR (Inactive)

American Board of Surgery

LCDR William C. Adams, Jr. (MC) USN (Active)
 CAPT Robert F. Christoph (MC) USN (Active)
 LTJG Anthony D. DiBenedetto (MC) USNR (Inactive)
 LT Richard B. Hamilton (MC) USNR (Inactive)

LTJG Victor B. Hollowell (MC) USNR (Inactive)
LTJG William C. Lukes (MC) USNR (Inactive)
LCDR James E. McClenathan (MC) USN (Active)
CDR John R. Palmer, Jr. (MC) USN (Active)
CAPT Paul G. Richards (MC) USN (Active)
LTJG Edward G. Thomas (MC) USNR (Inactive)
CDR William C. Turville (MC) USN (Active)
LCDR William R. Williams, Jr. (MC) USNR (Active)

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Recent Research Projects

Naval Dental Research Facility, NTC, Bainbridge, Md.

1. The Hyaluronidase Activity of Saliva. II. The Relationship of Hyaluronidase of Saliva to Dental Carries Experience in Young Adults. NM 008 027.01.03, 15 January 1957.
2. The Hyaluronidase Activity of Saliva. III. The Relationship of Hyaluronidase Activity of Saliva to Gingivitis in Young Adults. NM 008 027.01.04, 20 January 1957.
3. The Hyaluronidase Activity of Saliva. IV. The Relationship of Hyaluronidase Activity of Saliva to Oral Hygiene in Young Adults. NM 008 027.01.05, 20 January 1957.

Naval Dental School, NNMC, Bethesda, Md.

1. Pilot Research Study on the Fabrication of a Resilient Plastic Interdental Splint - A Paint-On Technique. NM 008 015 (Pilot). 1 January 1957.

Naval Medical Research Institute, NNMC, Bethesda, Md.

1. Experimental Study of Electric Potentials Across the Aorta of Dogs. NM 007 018.10.24, 22 October 1956.
2. Differential Hypothermia in Experimental Hepatic Surgery. Application of this Technique to a Problem in Clinical Surgery. NM 007 081.30.05, 26 October 1956.
3. High Pressure Oxygen Effects on the Transport of Potassium, Sodium, and Glutamate in Guinea Pig Brain Slices. NM 004 005.09.02, 30 October 1956.
4. Injury and Recovery of Spirogyra Exposed to Ultrasound. NM 004 005.03.09, 1 November 1956.
5. The Toxicology of Cellulube 220. II. Tests of In Vitro Activity Against Acetylcholinesterase and Human Serum Esterases. NM 005 054.01.02, 2 November 1956.
6. Blood Flow Changes in the Leg of the Dog Following Cold Injury. NM 007 081.14.03, 8 November 1956.

7. Selection of a Mutant Strain of Rickettsia Prowazeki Resistant to p-Aminobenzoic Acid. NM 005 048.25.01, 20 November 1956.
8. Simplified Microradiographic Technique. Memorandum Report 56-7. NM 004 006.09, 29 November 1956.
9. Successful Cross-Species Bone Grafting Accomplished by Removal of the Donor Organic Matrix. NM 004 006.09.01, 5 December 1956.
10. Reversibility and Equilibrium of the Glutaminase Reaction, Observed Calorimetrically to Find the Free Energy of Adenosinetriphosphate Hydrolysis. NM 000 018.17.01, 17 December 1956.

Naval Medical Research Unit No. 3, Cairo, Egypt

1. Studies in Shigellosis. VI. Observations on Incidence and Etiology of Diarrheal Disease in Egyptian Adults. NM 005 083.07010, March 1956.
2. Observations on the Biology of Ornithodoros Foley Parrot, 1928 (Ixodoidea, Argasidae). NM 005 050.29.28, October 1956.

Naval Medical Research Unit No. 4, Great Lakes, Ill.

1. Electrophoretic and Chemical Study of the Relationship of Protein-Bound Carbohydrates to Proteins in Healthy Young Male Adults. NM 007 111.02, 2 January 1957.
2. Growth of Influenza B Virus in Monkey Kidney Cultures. NM 005 051.06.01, 23 January 1957.
3. Studies on the Host Range of the Influenza Group of Viruses. NM 005 051.06.02, 28 January 1957.

Naval Medical Field Research Laboratory, Camp Lejeune, N. C.

1. Effectiveness of Intravenous Levarterenol as a Temporary Treatment for Hemorrhagic Hypotension. NM 006 014.08.05, March 1957.

Naval Medical Research Laboratory, Submarine Base, New London, Conn.

1. Detection of Signals and Their Attributes. Report No. 277, NM 003 041.55.02, 25 September 1956.
2. An Investigation of Motivation for Submarine Duty and Its Relation to Submarine School Success. Report No. 278, NM 003 041.53.04, 4 November 1956.
3. Photometric Survey of the Red Lighting Installation on the USS Darter (SS-576), Memorandum Report #56-7, NM 002 014.08.11, 13 December 1956.

Naval School of Aviation Medicine, NAS, Pensacola, Fla.

1. Co-relates of Reading Speed and the Time Required to Complete Personality Inventories. Report No. 16, NM 001 108 100, 11 June 1956.
2. The Ability to Reproduce Task Cues and the Ability to Perform the Task, Report No. 2, NM 001 108 101, 31 August 1956.

3. Evaluation of a "Moving Airplane" Attitude Indicator, Report No. 3, NM 001 109 107, 12 September 1956.
4. A Procedure for Reducing the Effects of Slanting Questionnaire Responses Toward Social Acceptability. Report No. 17, NM 001 108 100, 15 September 1956.
5. Development of an Intermediate Criterion of Success in Naval Air Training. Report No. 18, NM 001 108 100, 10 October 1956.
6. Aspects of the Autonomous Personality: VII. The Pensacola Z Survey Report No. 6. NM 001 108 109, 15 October 1956.
7. Effects of Methyl Alcohol on Cerebral Blood Flow and Metabolism: Observations During and After Acute Intoxication, Report No. 11. NM 001 103 501, 24 October 1956.
8. The Method of "Single Descent" in Group Audiometry, Report No. 2, NM 001 102 502, 26 October 1956.
9. Changes in Psychophysiological Responses Produced by Delayed Speech Feedback, Report No. 1. NM 001 102 502, 28 October 1956.
10. Assessment of Officer-Like Qualities in Naval Air Cadets, Report No. 6, NM 001 109 101, 29 October 1956.
11. A Study of Intellectual Activity in a Noisy Environment, Report No. 1. NM 001 104 100, 31 October 1956.
12. A Note on the Effect of Test Set on the Rosenzweig Picture-Frustration Test, Report No. 19. NM 001 108 100, 1 November 1956.
13. A Mobile Laboratory for Group Hearing Tests, Report No. 3. NM 001 102 502, 30 November 1956.
14. Indoctrination in Use of the Rebreathing Apparatus, Multi-Purpose (RAMP) Report No. 3. NM 001 106 103, 5 December 1956.
15. The Development and Standardization of a Group Test for Critical Flicker Frequency, Report No. 4. NM 001 102 502, 12 December 1956.

Naval Air Material Center, Philadelphia, Pa.

1. Human Engineering Investigations of the Interior Lighting of Naval Aircraft. TED NAM EL 52004 Part 12. 27 February 1957.
2. The Measurement of Stress and Its Relationship to Performance. NM 001 110 20, 27 February 1957.
3. Effect of High Velocity Air Blast on Ejection Seat Face Curtain Installation and Pilot's Flight Gear, NAMC-ACEL-317, 1 March 1957

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From the Note Book

1. Rear Admiral B. E. Bradley, MC USN, Deputy and Assistant Chief of the Bureau of Medicine and Surgery, represented the Surgeon General of the Navy and the Medical Department of the Navy, at the Sixth Annual NATO

Medical Conference held at SHAPE Headquarters, Paris, France, April 24-27, 1957. (TIO BuMed)

2. The late Commander Eric Liljencrantz, MC USNR, for his inspired research in the field of Aviation Medicine, especially in the medical aspects of acceleration and high altitude flight, has been perpetuated by an award to be known as the "Liljencrantz Medal". The Charles Pfizer and Company, Inc., through its Pfizer Laboratories Division are sponsors of the award. It will be presented each year to that man who has published the most outstanding scientific paper on medical aspects of acceleration and high altitude flight. (TIO BuMed)
3. The U. S. Naval Hospital, Philadelphia, Pa. and the U. S. Naval Dental Clinic, Philadelphia, Pa. were co-hosts at the eighth Combined Scientific meeting with the Philadelphia County Dental Society on 3 April 1957. Over 300 civilian dentists and physicians from the greater Philadelphia area filled the auditorium of the Naval Hospital to hear Doctor James R. Cameron, Professor of Oral Surgery, School of Dentistry, Temple University, and Professor of Oral Surgery, Graduate School of Medicine, University of Pennsylvania, speak on "New Horizons in Dentistry". Doctor Gerald Timmons, Dean, School of Dentistry, Temple University and RADM Ralph W. Taylor, DC, USN, Inspector General, Dental, Bureau of Medicine and Surgery, discussed Doctor Cameron's paper.
4. In 1957, the Navy is joining with a special Federal Commission, a State of Virginia Commission and a committee of Tidewater Virginia communities, to assist in celebrating the 350th anniversary of the first permanent settlement by English-speaking colonists in the United States, at Jamestown, Virginia. A major highlight of this celebration, and the primary effort of the U. S. Navy in connection with it, will be the staging of "Fleet Week" and an International Naval Review in Hampton Roads, Virginia, during the period 8-17 June. Twenty-seven nations have been invited to send ships to Hampton Roads for this occasion, and to participate on Wednesday, 12 June (alternate date, 13 June) in a full-scale Naval Review. (Chinfo)
5. Committee chairman for the 64th annual convention of the Association of Military Surgeons of the United States have been announced by the association President, Col. Amos R. Koontz, Medical Corps in the Maryland National Guard. These appointments are: General Chairman, Maj. Gen. Paul I. Robinson, MC, U. S. Army, Director, Office for Dependents' Medical Care; Program Chairman, Col. Robert C. Kimberly, MC, National Guard, Maryland; Scientific Exhibits, Capt. William M. Silliphant, MC, U. S. Navy, Director Armed Forces Institute of Pathology; and Commercial Exhibits, Mr. Steven K. Herlitz, New York City. The convention which will

have as its theme, "Professional Excellence--The Criterion of Military Medicine," will be held at the Hotel Statler in Washington, D. C., 28-30th October 1957. (AMS US)

6. The Naval Correspondence Course Center is moving on 14 June 1957 from the Naval Base, Brooklyn, N. Y., to new quarters in Scotia, N. Y. The new address will be:

U. S. Naval Correspondence Course Center
Naval Supply Depot
Scotia 2, New York

Every effort will be made to minimize disruption of the Center's services, correspondents should anticipate some delay incident to the move. Delays in grading assignments will not adversely affect the enrollees, as completions are recorded as of the date the enrollee deposits assignments in the mail.

7. The Annual Report 1956 of the National Bureau of Standards summarizes the research and development activities of the National Bureau of Standards in the physical sciences during the fiscal year 1956. Brief descriptions are given of representative accomplishments in each area of the Bureau's responsibilities, which include maintenance of basic standards, determination of physical constants and properties of matter, development of methods and instruments of measurement, and the provision of calibration, testing and scientific advisory services. (NBS)

8. Because specific pneumococcal antiserum is no longer generally available and because the QUELLUNG reaction and bile or disoxycholate solubility tests are time consuming and often difficult to interpret, the optochin disk test fills a definite need in the clinical bacteriology laboratory. With the availability of dehydrated disks from commercial sources, it has become a simple, rapid, accurate, and inexpensive procedure for the identification of pneumococci. (J. Lab. & Clin. Med., April 1957, M. K. Bowen, et al)

9. On clinical, pathologic, and natural historical grounds, nephrotic glomerulonephritis and nephritic glomerulonephritis have similarities and differences. It appears that a peculiar auto-antibody injury is present in both processes but the trigger mechanism has not been discovered for nephrotic glomerulonephritis. It is hoped that future presentations on nephrotic glomerulonephritis will use 5, 10 and 20 year survival statistics so that a better concept of ultimate prognosis may be reached. (A. J. Path., March-April 1957, D. B. Jones, M.D.)

10. In this article morphologic studies of the bone marrow in normal pregnancy and the puerperium are compared with the bone marrow findings

in normal non-pregnant women of childbearing ages. (Blood, March 1957, L. Lowenstein, C. A. Bramlage)

11. The management of the near-term pregnant patient who dies undelivered is discussed in A. J. Obst. & Gynec., April 1957. (A. M. Weil, M.D., V. R. Graber, M.D.)

12. A symposium on trauma incident to high speed and high altitude flying is presented in A. J. Surg., April 1957.

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BUMED INSTRUCTION 5320.1

12 April 1957

From: Chief, Bureau of Medicine and Surgery
To: Activities Under Management Control of BUMED

Subj: Filling of vacated civilian positions

This instruction advises addressees that when a civilian position is vacated by reason of an incumbent's retirement, resignation, or transfer it must be determined whether the position can be abolished or filled by transfer before new employment is instituted. BuMed-23 letter of 11 January 1957 (Subj: Report of Vacated Civilian Positions), (NOTAL), is canceled. The monthly Report of Vacated Civilian Positions, MED-5322-1, shall be discontinued

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BUMED INSTRUCTION 1520.3B

12 April 1957

From: Chief, Bureau of Medicine and Surgery
Chief of Naval Personnel
To: Ships and Stations Having Medical Corps Personnel

Subj: Required service agreements for courses of instruction in Aviation Medicine or Submarine and Diving Medicine

This instruction provides information concerning service agreements required of medical officers making application for assignment to courses of instruction in Aviation Medicine or Submarine and Diving Medicine. BuMed Instruction 1520.3A is canceled.

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RESERVE SECTION

Accelerated Class "A" Schools Available to Inactive Reserve Hospital Corpsmen

Classes of twelve weeks active duty for training are available to inactive reserve hospital corpsmen at the following schools:

U. S. Naval Hospital Corps School
Bainbridge, Md.

U. S. Naval Hospital Corps School
Naval Hospital
Great Lakes, Ill.

U. S. Naval Hospital Corps School
Naval Hospital
San Diego, Calif.

Classes at Bainbridge convene weekly and classes at Great Lakes and San Diego convene bi-weekly. Trainees may be ordered to report to these activities on any Monday morning. Here are the eligibility requirements:

(a) Inactive reserve personnel in pay grades E-2 and E-3 are eligible for this training. E-2 personnel must be enlisted under the Reserve Forces Act of 1955 and in pay grade a minimum of six months.

(b) Be enrolled in good standing in either the Surface, Submarine, Construction Battalion, Naval Security Group, Hospital Corps or Electronics (Pay or Non-Pay) Program.

(c) Have achieved the minimum Basic Battery Test Score (combined GCT/ARI) of 100. No waivers will be granted for personnel whose scores do not meet the minimum requirements.

(d) Have at least 3 years remaining on present Naval Reserve enlistment or agree to extend enlistment for the required period.

(e) Not have been enrolled in or completed a Class "A" School while on active or inactive duty.

Reserve hospital corpsmen who satisfactorily complete this accelerated Class "A" School training may be examined for and advanced to pay

grade E-4 when they have completed a minimum of 9 months in pay grade E-3 provided their drill attendance meets the required minimum.

No specific quotas for this program have been assigned to continental naval districts. Quotas are controlled by the Chief of Naval Personnel (Pers-C126), and will be assigned upon request from commandants for billets in a particular school listed above. (BuPers Inst. 1571.13 dtd 8 June 1956)

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Medico-Dental Symposium at U. S. Naval Hospital
Philadelphia, Pennsylvania

The Eighth Annual Military Medico-Dental Symposium, under the auspices of the Commandant, Fourth Naval District, will convene at the U. S. Naval Hospital, Philadelphia, Pa., beginning 23 October and continue through 25 October 1957.

The Chief of Naval Personnel has approved this symposium for the awarding of retirement point credits to eligible Naval Reserve Medical Department officers attending, providing daily registration is accomplished with the authorized military representative present. Security clearance is not required. Inquiries concerning the program, accommodations and items of general interest in and around Philadelphia, should be addressed to the District Medical Officer, Headquarters, Fourth Naval District, Naval Base, Philadelphia, Pa.

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Procurement of U. S. Navy Medical News Letter
and Armed Forces Medical Journal

U. S. Navy Medical News Letter--Dental officers of the Navy Reserve not on active duty who desire receipt of the Medical News Letter should submit a request to Chief, Bureau of Medicine and Surgery, Navy Department, Washington, D. C. giving rank, name, and mailing address. This publication is distributed on a yearly basis and failure to renew application by 15 December of each year automatically causes names to be removed from the files.

Armed Forces Medical Journal--This publication is issued by the Armed Forces Medical Publication Agency of the Department of Defense. It is considered an excellent medium containing original investigations, observations, and clinical experiences of professional interest to all medical and dental personnel of the Department of Defense.

Navy Reserve dental officers not on active duty may receive the Journal by submitting a letter to the Editor, United States Armed Forces Medical Journal, Armed Forces Medical Publication Agency, 23rd and E Streets, N. W., Wash. 25, D. C.

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American Psychiatric Association Annual Meeting

During 13-17 May 1957, the American Psychiatric Association will hold its annual meeting at the Hotel Morrison, Chicago, Ill.

On 14 May a two hour luncheon meeting, for the benefit of regular and reserve medical officers of the Navy, will be held to discuss current developments in Naval Psychiatry. Captain G. N. Raines, MC, USN, Head, Neuropsychiatry Branch, Bureau of Medicine and Surgery will preside at this luncheon. On the afternoon of Thursday, 16 May a Symposium on Military Psychiatry will be conducted by speakers of prominence who are outstanding in the specialty of psychiatry.

The meetings of 14 and 16 May have been approved for the awarding of retirement point credits to eligible inactive Naval Reserve Medical officers attending, providing they register such attendance with the authorized military representative present.

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DENTAL



SECTION

Navy Dental Officer Billets For "Operation Deep Freeze III" Available

Two dental officer billets are available in the rank of Lieutenant Commander or below for Operation Deep Freeze III in Antarctica and the climax of the International Geophysical Year. Scientists from more than 50 nations are participating in the IGY.

The dental officers selected for these billets will be ordered to report to the Naval Construction Battalion Center, Davisville, R. I. in the near

future, where they will receive the necessary indoctrination and provide the dental services for the personnel of the battalion until about November 1957. At this time they will depart for Antarctica for a period of about 18 months returning to the Continental U. S. in the Spring of 1959.

Officers interested in this assignment should review ALNAV 68 of 1956 and submit their requests as soon as possible. Reserve officers not on extended active duty should include in their request a statement to extend their period of active duty until completion of Operation Deep Freeze III.

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Correspondence Courses for Dental Officers

At this time of the year increasing numbers of dental officers enroll in correspondence courses, in an effort to secure promotion points before the end of the fiscal year; this causes a last minute rush somewhat akin to the income tax line.

New correspondence courses are continually being written by the Correspondence Course Training Department of the Dental School at the National Naval Medical Center, Bethesda, Md. The courses administered by the Dental School now number 17 - the latest of which is Dental Department Administration, for a value of 24 promotion and retirement points.

Other correspondence courses are administered by the U. S. Naval Correspondence Course Center, Building RF, U. S. Naval Base, Brooklyn 1, New York. BuMed Instruction 1416.3 of 12 May 1956 lists correspondence courses to be taken for officers in the various grades. BuMed Instruction 1416.3, Sup 1, of 31 October 1956 changed the effective date of the first instruction to 1 July 1957. It is highly desirable for dental officers to complete the correspondence courses listed for the various grades even though this may not be required for promotion.

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Naval Hospitals to Conduct Navy Dental Intern Training During Fiscal Year 1958

Nine U. S. Naval Hospitals will conduct Navy Dental Intern Training Programs for a total of 18 dental officers during Fiscal Year 1958. This training is designed to broaden the knowledge and experience of recently graduated dental officers in accordance with the standards of the American Dental Association for rotating type internships.

Naval hospitals participating in this program are:

U. S. Naval Hospital, Camp Pendleton, California

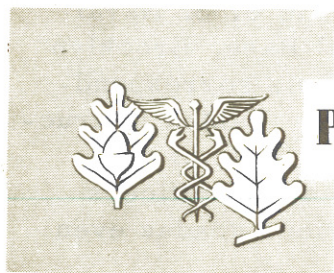
U. S. Naval Hospital, St. Albans, Long Island, N. Y.
U. S. Naval Hospital, Philadelphia, Pa.
U. S. Naval Hospital, Portsmouth, Va.
U. S. Naval Hospital, Great Lakes, Ill.
U. S. Naval Hospital, San Diego, Calif.
U. S. Naval Hospital, Oakland, Calif.
U. S. Naval Hospital, Chelsea, Mass.
U. S. Naval Hospital, Corona, Calif.

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Senior Dental Student Program for Fiscal Year 1958

Orders are being issued to 40 junior dental students who will be placed on active duty as Ensigns, 1955, during their senior year in dental college. These students were selected from a total of 113 who originally applied; 100 were Ensigns 1955 inactive, and 13 were civilians. Six students were selected as alternates. The students who will participate in this program have agreed to accept superseding appointments as Lieutenant (junior grade) in the Regular Navy upon graduation.

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PREVENTIVE MEDICINE SECTION

Visceral Larva Migrans - A Veterinary Public Health Problem

As medical research progresses, more and more knowledge is accumulated to emphasize the influence which animal diseases have on human health. The animal parasites assume a new role of importance presenting a problem for medical department personnel. One of the more recent zoonotic diseases reported is visceral larva migrans. This new clinical syndrome in man results from ingesting the embryonated ova of certain nematodes commonly found in dogs and cats.

It has long been known that ascarids in the dog (*Toxocara canis*) and cat (*Toxocara cati*) are host specific and do not parasitize man; therefore children do not acquire adult roundworm infections from the family pet.

What has not been recognized is that larvae of these roundworms, produced from ova swallowed by children, may, instead of being excreted in the stools, migrate through the intestinal wall and eventually be carried to the liver, brain, eye, or other organs. Encapsulation of the larvae within the liver, lung, and central nervous system has been observed. Visceral larva migrans, as the resulting disease is called, is usually benign and self-limiting but severe symptoms may develop. Manifestations are probably due both to direct damage by migrating larvae and to an allergic response. Severity of the symptoms varies with the number of larvae and the immune or allergic state of the individual.

The condition is reported to occur most commonly in children between 1 and 4 years of age. It is associated with pica, involving the ingestion of contaminated soil. Studies have shown that as few as 200 ova, which may be present in a very small quantity of dirt, can produce symptoms of visceral larva migrans. The most prominent manifestations are a marked eosinophilia, hepatomegaly, splenomegaly, skin rashes, and pulmonary infiltration which often leads to respiratory distress. Therapy is symptomatic.

Diagnosis is difficult since the larvae do not reach maturity in the human body; stool specimens are therefore negative. The diagnostician must depend primarily on the history of the patient, association with a parasitized animal pet, and symptoms. Work has been initiated to develop methods for the serological diagnosis of visceral larva migrans. When developed such a procedure will be an invaluable diagnostic aid.

Several factors must be considered for control. Since dogs and cats are known to be the source of the disease, it is essential that routine systematic worming of these pets be accomplished. Ascarids are among the most easily controlled parasites known; therefore maintenance of a relatively parasite-free animal is readily accomplished.

The ova of Toxocara canis and Toxocara cati persist in soil for 5 to 8 months, sometimes several years. This necessitates the employment of good sanitary principles in the pet's environment. Bedding and kennel should be routinely cleaned. Areas where the dog exercises should be policed daily and excreta buried.

A third factor, which may sometimes be the most important, is an understanding of the cause and correction of pica in the child which results in dirt eating. Dietary deficiencies, unusual stress, and emotional disturbances may be the cause or contributing factors.

There is no justification for disposing of household pets. The absence of a pet in the household is no assurance that a youngster will not be exposed to the parasitic ova. Neighborhood dogs can easily contaminate the ground on which the child plays. Effective control is dependent on a well organized preventive medicine program in which control of ascarids in the pets is systematically accomplished by the veterinarian on a continuing basis, good sanitary practices are habitually observed and causes of pica in the child are corrected.

Visceral larva migrans is another example of the effect which animal health has on human health. Only when the physician and veterinarian are both aware of this important relationship can a preventive medicine program be effective since prevention and control of such disease involves both man and animals. (USAF Medical Service Digest, 8: No. 2, February 1957)

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Accidental Poisoning in Recent Years

The death rate from accidental poisoning by solids and liquids in the United States decreased steadily from 11.0 per million population in 1949 to 8.3 in 1954, then increased slightly to 8.7 in 1955, the latest figure available.

This recent rise reflected largely the increase in fatalities from accidental poisoning by barbituric acid and its derivatives. As shown by the table, in 1955 there were 411 such deaths--about 30% of the total--compared with 345 in 1954. Actually, the number of deaths from this cause has been increasing since 1952, reversing the trend in the years immediately preceding. It is not clear why, with more stringent restrictions being placed on the sale of barbiturates in many localities, the improvement in mortality recorded from 1949 to 1952 has not continued.

The death toll from drugs and medicines other than barbiturates has not changed appreciably in recent years. In 1955 these drugs accounted for 345 deaths or for one-fourth of the total mortality from accidental poisoning in the United States. The majority of deaths in this category resulted from poisoning by the salicylates or from overdoses of chloral hydrate, paraldehyde, and other analgesics and soporifics. Strychnine, however, is responsible for relatively few deaths--far less than the toll it took several decades ago.

At least one in every seven deaths from accidental poisoning is due to the ingestion of wood, denatured, or other alcohols. Most prominent among the other poisons are petroleum products, lead, and caustic alkalies and acids.

Deaths from accidental poisoning are about 1 1/2 times as frequent among males as among females. Each of the substances listed in the table, except the barbiturates, takes a higher toll among males; for alcohol poisoning the ratio is at least 4 to 1.

Children under 5 years of age, who constitute little more than one-tenth of the total population, account for nearly three-tenths of the poisoning fatalities. Preschool youngsters comprise a large proportion of the victims of poisoning from aspirin and other salicylates, kerosene and other petroleum products, insecticides, and lead compounds. (Metropolitan Life Insurance Company Statistical Bulletin, Accidental Poisoning in Recent Years: 38, February 1957)

NUMBER OF DEATHS FROM ACCIDENTAL POISONING BY SOLIDS AND LIQUIDS
United States, 1949 to 1955

Agency of Poisoning	1955	1954	1953	1952	1951	1950	1949
Total—Number of deaths.....	1,431	1,339	1,391	1,440	1,497	1,584	1,634
Death rate per 1,000,000 population	8.7	8.3	8.8	9.2	9.8	10.4	11.0
Barbituric acid and derivatives.....	411	345	337	327	363	409	466
Drugs and medicines (except barbiturates) .	345	356	327	352	297	332	291
Aspirin and other salicylates.....	105	117	98	113	89	99	70
Morphine, other opium derivatives.....	40	33	31	25	28	22	27
Bromides.....	6	13	16	16	14	14	8
Chloral hydrate, paraldehyde, other analgesics and soporifics.....	100	91	82	95	94	109	92
Strychnine.....	17	14	21	24	16	23	22
Other and unspecified drugs.....	77	88	79	79	56	65	72
Alcohol.....	223	199	221	239	269	246	239
Petroleum products.....	76	94	116	122	102	112	117
Caustic alkalies, acids.....	51	47	63	72	62	78	87
Carbon tetrachloride, turpentine, etc.....	44	45	47	46	48	34	31
Lead and compounds.....	64	41	65	57	68	61	57
Arsenic, antimony, and compounds.....	41	37	52	49	57	58	57
Mercury and compounds.....	10	7	9	13	17	23	24
Other and unspecified.....	166	168	154	163	214	231	265

Source of basic data: Reports of National Office of Vital Statistics.

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Importance of Accident Prevention

(A Symposium on the Medical Aspects of Motor Vehicle Accident Prevention - the first of its kind in the nation - convened in May 1956 at New York University's Bellevue Medical Center and the Center for Safety Education. More than 125 physicians, psychiatrists, psychologists, traffic safety specialists, and motor vehicle administrators investigated this crucial problem. The following is a talk given by Howard A. Rusk, M. D., Director, Institute of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center. It should interest those concerned with motor vehicle accident prevention endeavors.)

When we were setting up the early veteran and civilian rehabilitation programs here in New York and then generally throughout the country, I was astounded by one statistic that I have never been able to get out of my mind. The bloodiest fighting that we had in the war and the days of our highest casualties were the first 10 days after D-day. We lost, killed and wounded, on the beachheads of Normandy 11,000 men. During those same 10 days we lost 26,000 civilians, killed and wounded, on the

highways and in the industry of this country, and those were the days of gas rationing!

The same accidental losses still occur every day. There is no real fuss about them, no excitement. But if on a Saturday night in some community an ambulance screamed to the door of a hospital and, instead of 4 victims of an automobile accident, there were 4 cases of plague or typhoid fever or any one of the exotic diseases that we fear, the whole state and the adjacent states would be in general alarm for days, and everybody would want something done about stopping this epidemic.

I think that we have come to take this accident problem as a matter of course - an unpreventable problem because we don't have a vaccine or a serum or medicine or something specific that we can give to stop it. We do have engineering tools and psychiatric tools and social tools with which to work, but we haven't learned to use them together. Nevertheless, I think that we have enough knowledge in our hands to attack this problem properly, and we in medicine should take a certain amount of leadership in this attack. We can make substantial progress even with our present knowledge, although I certainly agree with Drs. Hilleboe and Shepard that we need more and continuing research.

We must also encourage and assist in educational programs attacking the problem. In this connection one of the questions that needs to be considered is this: "What does an automobile do to the average individual to change his whole concept of manners?" It is a question that has to be considered at home, at meetings of parent-teacher associations, and by other groups, as well as in driver education classes in school. With regard to the latter it might be well for the parents of the students to sit in occasionally because it doesn't do much good to teach the proprieties to our youngsters and then have them violated by the example set when they are riding with their parents.

When it comes to learning by example, there may be much to be gained from the driving record of disabled people. We see in the Institute now between 300 and 400 paraplegics and quadraplegics each year. We have a number of quadraplegics who are driving with no triceps, with only partial fingers left, but with certain changes in their car and a glove that keeps their hand to the wheel. They seem to make excellent drivers. We have a paraplegic girl, now in her eighth year of driving, who thinks nothing of getting in a car and driving down to her home in North Carolina and back. In riding with her, I am amazed at her skill and care and sensitivity in driving.

Perhaps one reason that disabled people have such a sensitivity is that they recognize driving as a great privilege. They have lost the power of basic locomotion, but to be given the privilege of locomotion in this way makes them appreciate the opportunity. This shows up in their safety record. For example, Abilities, Incorporated, which hires only

severely disabled people (polio cases, blind and deaf, cardiacs, hemiplegics, and paraplegics) had this safety and attendance record in 1955, as compared to national norms:

Days absent per 100 scheduled working days: 0.021, normal 3.3.

Days paid sick leave: 0.019, normal 1.3.

Average days lost per injury per 100 scheduled working days: 0.033, normal 0.13.

Days of disability per injury: 1.8, normal 14.3.

This suggests what can be accomplished through proper preventive measures. It also makes us wonder whether it might not be well worth while to employ some of the disabled as driving instructors and examiners who could teach both by precept and example, impressing many by their sensitivity and sound judgment.

Today accidents rank high as the cause of death and injury among all age groups. The head of a large western clinic recently indicated that they did not have a single death in their entire pediatric practice during the preceding year; those that came to their attention resulted from home and traffic accidents. This is a problem that the medical profession alone cannot solve. However, the doctor can be the prime educator in the accident prevention program. If he is given the proper material and if he is willing to carry the message to individuals and to groups, we can make real progress, educationally speaking. The physician must also do what he can to help identify those who are unfit to drive. He can also contribute a great deal to research in accident prevention. Of course, this is not his problem alone, and so it is most heartening that this symposium has brought together representatives of different disciplines and different interests to discuss this great common problem. Only through such teamwork can we come to sound and practical solutions. (Excerpt of Reprint from New York State Journal of Medicine, 56: 24, 15 December 1956)

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The Role of Preventive Medicine in Highway Safety

Accidental trauma has reached epidemic proportions among civilian and military populations. Accidents, particularly those occurring on the highway, now constitute the outstanding threat to the health and productive resources of the nation.

The control of this threat to health and safety falls within the province of preventive medicine, and the medical officer and physician has as much responsibility for the prevention of accidental death and injury as for the prevention and treatment of disease.

The proposal has been presented that the epidemiologic approach originally developed for the study and control of mass infectious disease is also

applicable to the study and control of accidental trauma. Similar biologic principles are involved, and because of the multiple causes of accidents, a team approach is a basic requirement.

In this view, accidents are considered to result from the interactions of three different factors: (1) the host (the worker, or driver), (2) the agent (or equipment), and (3) the environment. The host is a primary medical concern, and the physician, because of his knowledge of the characteristics of the host, is in an especially advantageous position to contribute to the analysis of accident causes, and to educate in safety while treating effects.

One of the most important working rules is that the job to which a person is assigned should be related to his behavioral, psychological, and physical characteristics. The influence on safety of various temporary states in the individual such as fatigue, emotional problems, and the effect of alcohol can hardly be over-emphasized.

Methods of detecting the accident-repeater in advance have not yet been perfected, but the most promising approach is based on the concept that "a man works (or drives) as he lives." At the very least, medical officers and industrial physicians can identify those with a record of repeated accidents, and through clinical approaches, determine how well adapted they are to their jobs and responsibilities.

One important way of improving safety is by the design of equipment in terms of human capabilities and limitations. This involves a closer integration of the host-agent relationships through the application of the principles of human engineering. Such an approach utilizes an advance analysis of the possible faults in the design of the equipment and can aid substantially in the reduction of accidents.

The third phase of the epidemiologic approach, the host-environment relationship, is concerned with the effect of the physical variables on the individual. Such factors as the level of illumination, the temperature and the humidity, carbon monoxide, and other toxic agents are of importance. For each of these variables there are reasonably defined zones of comfort and discomfort, and ranges where the efficiency of human performance is reduced to the detriment of safety.

The physician of today and of the future can play an important role in the prevention of accidents. The significant advances will be obtained by carefully controlled experimental and clinical studies, epidemiologic surveys, statistical analysis, and with the medical officer working in close collaboration with other biological specialists, engineers, and administrative officers. (McFarland, Ross A., PhD, The Role of Preventive Medicine in Highway Safety: Am. J. Pub. Health, 47: 288-296, March 1957)

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Notes on the 17th Annual Congress on Industrial Health

The 17th Annual Congress on Industrial Health, Council on Industrial Health of the American Medical Association, convened February 4-6, 1957 in Los Angeles, California.

The Congress was opened with greetings presented by Doctor William P. Shepard, Chairman of the Council and Doctor Donald A. Charnock, President of the California Medical Society.

The first afternoon and the next half day were spent on Vision in Industry. The sessions were led by Doctor F. M. Foot, Executive Director, National Society for the Prevention of Blindness, New York, and Doctor E. B. Spaeth, Professor Emeritus, Graduate School of Medicine, University of Pennsylvania, Philadelphia. Several of the speakers were outstanding medical specialists in the field of vision in industry. The following notes summarize the material covered:

(a) Instruments used in industrial establishments for visual acuity (not for fine visual testing):

- (1) Sight Screener (American Optical Company)
- (2) Orthorator (Bausch and Lomb)
- (3) Telebinocular (Keystone Company)

Personnel who perform screen tests should have a thorough knowledge of the testing instrument and how to evaluate the results obtained. It is estimated that at least one month is required to properly train an individual.

(b) Evaluation of an individual's vision should include:

- (1) Near and distance vision (Jaeger and Snellen Charts)
- (2) Depth perception
- (3) Color vision
- (4) Study of visual fields
- (5) Muscle balance

Instruction should be given on the care and maintenance of protective eye-wear. Information should also be given regarding the Wise Owl Club (membership consists of persons who have saved their eyes from injury by wearing safety glasses). Preference for clinical evaluation of the eyes was discussed. Testing charts should be properly lighted and each plant should have special charts for illiterates.

(c) Environmental factors of vision:

- (1) Adequate lighting
- (2) Contrast
- (3) Working hours
- (4) Rest

(d) Visual acuity

(1) Less than 10% visual acuity is considered the same as blindness in industry.

(e) Color vision

(1) Color blindness is inherited and is present in approximately 10% of the population. It may be mild, moderate, or severe and cannot be cured. It has nothing to do with visual acuity and is not associated with night blindness.

(f) Good vision

- (1) Aids in job performance
- (2) Prevents fatigue and increases efficiency
- (3) Aids in the prolongation of efficiency
- (4) Prevents accidents

The third session was conducted by Doctors Lemuel C. McGee and Rutherford T. Johnstone on Health Hazards of Agricultural Chemicals. The specific chemicals discussed were organic phosphorus and chlorinated hydrocarbon insecticides and the control of the hazards involved in their usage. The recommended treatment for poisoning due to compounds containing organic phosphates is:

- (1) Bed bath stat - use copious amounts of soap and water
- (2) Artificial respiration and oxygen p. r. n.
- (3) Constant observation for 24 hours
- (4) Postural drainage as indicated
- (5) No opiates
- (6) Atropine Sulphate as follows:

Example -

- 12:15 pm grs. 1/25 I. V. (2.5 mg)
- 12:30 pm grs. 1/25 I. V. (2.5 mg)
- 12:45 pm grs. 1/25 I. V. (2.5 mg)
- 1:00 pm grs. 1/50 I. M. (1.3 mg)

Repeat atropine sulphate grs. 1/50 I. M. every hour to full atropinization - then atropine sulphate grs. 1/50 I. M. every 4 hours.

(The treatment given for poisoning from organic phosphates is important to naval medical personnel because new hydraulic fluids presently being used aboard ships in the elevator and steering systems contain organic phosphates. Organic phosphorus insecticides are also being used by the Navy.)

At the annual banquet, Doctor William P. Shepard presided and Doctor Dwight H. Murray, President of the AMA, gave the address of the evening in which he stressed the forward progress made in occupational health practices. Doctor Edward C. Holmblad made a presentation in the form of a bronze plaque to Doctor Rufus B. Crain who was selected by the President's Committee on Employment of the Physically Handicapped as a physician who made an "Outstanding Contribution to the Welfare and Employment of the Nation's Physically Handicapped Men and Women."

The sessions on the last day of the Congress covered:

- (a) New concepts in the management of burns

(1) The open method of treatment was stressed along with electrolyte and water balance

(b) New developments in the prevention of hearing loss due to industrial noises. (Shone, L. B., Capt MC USN, PrevMedDiv, BuMed)

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Two-months' Course in Occupational Health

The Institute of Industrial Medicine, New York University - Bellevue Medical Center is offering a two-months' course in occupational health, 16 September - 8 November 1957.

The course is designed for physicians engaged in the practice of occupational medicine. Some subjects to be covered are:

Preventive medicine in industry

Rehabilitation

Organization of a medical department in industry

Physician-community relationships

The nurse in industry

Occupational diseases

Metal poisoning

The pneumoconioses

Dermatoses

Solvent intoxication

Disabling effects of gases

Biological effects of physical hazards

Industrial Hygiene

Hazardous agents

Sampling and analysis

Methods of control

Air pollution

Plant hygiene

Threshold limits

The industrial hygiene survey

Naval occupational medical officers may apply for this course in occupational health in accordance with instructions contained in BuMed Instruction 1520.8 of 6 February 1956. Naval civilian physicians engaged in occupational health duties may apply in accordance with NCPI 230.6.

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